

Title (en)

ASYMMETRICALLY SHAPED TRAILING EDGE COOLING HOLES

Title (de)

ASYMMETRISCH GEFORMTE AUSTRITTSKANTENKÜHLLÖCHER

Title (fr)

TROUS DE REFROIDISSEMENT DE BORD DE FUITE DE FORME ASYMÉTRIQUE

Publication

**EP 2850287 A1 20150325 (EN)**

Application

**EP 13796174 A 20130509**

Priority

- US 201261645008 P 20120509
- US 201213470792 A 20120514
- US 2013040281 W 20130509

Abstract (en)

[origin: US2013302178A1] A turbine airfoil includes pressure and suction sidewalls extending along a span from a base to a tip. Spanwise spaced apart trailing edge cooling holes in pressure sidewall end at corresponding spanwise spaced apart trailing edge cooling slots extending chordally substantially to trailing edge. Each cooling hole includes an asymmetric flow cross section through one or more asymmetric intermediate sections leading into slot. Flow cross section is asymmetric with respect to a mid-plane extending axially and spanwise through intermediate sections. Different trailing edge cooling holes may include different asymmetric flow cross sections. Lands may extend between the cooling slots. A raised floor may extend away from at least one of pressure or suction sidewalls at least partially through one or more asymmetric intermediate sections and optionally at least partially through cooling slot. Raised floor may include up and down ramps and a flat transition section between ramps.

IPC 8 full level

**F01D 5/18** (2006.01)

CPC (source: EP US)

**F01D 5/186** (2013.01 - EP US); **F01D 5/187** (2013.01 - EP US); **F05D 2240/122** (2013.01 - EP US); **F05D 2240/304** (2013.01 - EP US); **F05D 2250/14** (2013.01 - EP US); **F05D 2250/323** (2013.01 - EP US); **F05D 2250/324** (2013.01 - EP US); **F05D 2260/202** (2013.01 - EP US); **F05D 2260/22141** (2013.01 - EP US); **Y02T 50/60** (2013.01 - EP US)

Citation (search report)

See references of WO 2014031189A1

Cited by

FR3107562A1

Designated contracting state (EPC)

AL AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MK MT NL NO PL PT RO RS SE SI SK SM TR

Designated extension state (EPC)

BA ME

DOCDB simple family (publication)

**US 2013302178 A1 20131114**; **US 9145773 B2 20150929**; BR 112014027903 A2 20170627; CA 2872187 A1 20140227; CA 2872187 C 20170530; CN 104487658 A 20150401; CN 104487658 B 20160413; EP 2850287 A1 20150325; JP 2015516540 A 20150611; JP 5977884 B2 20160824; WO 2014031189 A1 20140227; WO 2014031189 A8 20141106

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